

# Homeschooling ABCs

Lesson M

## **Math Can be Fun!** **(In fact, it should be)**

By

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# Welcome back to class!

I hope that you have had a great week of school and are looking forward to the week ahead. My prayer and hope for you is that teaching and learning becomes truly an enjoyable experience, not just something to mark off your "to do" list. Are you running into any road blocks – subjects or attitudes that are cause grief in your home?

Many times, the subject of math can cause some real struggle within your homeschool. We have shed many tears over our math books (yes, I have cried alongside my children when I couldn't explain a concept for them to understand). BUT THIS DOES NOT HAVE TO BE!! Yes, new math concepts can be hard to learn, but when we make math fun, it brings laughs instead of tears.

But first, here's a look at the schedule from the past couple of weeks and the next few weeks so that you can see where we've been and where we're going. Remember to go at your own pace. If you need to go back and read any of the first twelve lessons again (or for the first time), you will always find the links to the previous lessons at the end of the current one. As you can see, we are now on Lesson 13! You are half way through this course! Look how far you have come? I hope that you are enjoying the lessons. Check out this review that was sent to me this week from Crazy Mom. It's a fun read!

<http://www.homeschoolblogger.com/crazyhouse/605847/>

- 10. Just say No – staying focused and on-track
- 11. Keeping up with Kindergarteners & Preschoolers (and other wee ones!)
- 12. Living & Learning at Home (AKA Keeping up with Life)  
**Plus a special report: Using Living Books for Learning**
- 13. Math can be Fun!
- 14. Nature Study and Science Exploration
- 15. Out the Door – Time for a Field Trip

Let's get right to Lesson M: Math Can be Fun!

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**Note:** Most weekly lessons will be 5-10 pages in length (not including cover page, legal page, and foreword) and will arrive approximately every 7 days. Keep a lookout for emails with [HomeschoolingABCs] in the subject line.

**Note:** Most weeks there will be curriculum samples, even entire programs, which are available to you. These will either be attached to the course materials or through a separate link on the download page. We clarify each week how to get these materials. This week we have a fun unit study for you from Marmee Dear & Co. You can pick this up at the end of today's lesson and on the download page.

## Math Can be Fun!

Arithmetic and higher mathematics seem to be universally accepted as a difficult subject which will bring tears and frustration to all who learn it. And we all must learn it. It is almost a foregone conclusion that your students will have struggles over math concepts.

I will acknowledge that some kids naturally "take to" math, whereas it requires a great effort on the part of other kids to even understand it. Your child falls into one of these two camps. However, I hope that none of your children are bored by math. This attitude toward math certainly never need be! Math is a fascinating subject with layers of depth and symmetry that continues to boggle the brainiest mathematicians and the head-scratching math-challenged alike.

**Disclaimer:** I suppose that I should preface this discussion by pointing out that I am not a math expert, nor do I have a degree in math. My dad was a high school math and science teacher, but those genes were certainly not passed down to me. For some reason, I was not wired with a natural love of mathematics, BUT since we began homeschooling eleven years ago I have learned that arithmetic and mathematics are far from boring. And it's my job as the teacher to make sure that my kids know that and do not grow up believing that math is all about numbers that don't make sense or have no relationship to each other. To the contrary! As you will see in this lesson. I hope this gets you excited about teaching and learning math alongside your children.

So let's dive in... We'll cover the topic of math concept by concept (please forgive me if I leave something major out or present material out of logical order!).

### **Addition and subtraction:**

We've covered basic addition and subtraction in previous lessons to a limited extent. The absolute best way to learn addition and subtraction is by using manipulatives and a hundred chart.

**Note:** As you know, almost anything small around your house can be used as manipulatives – popsicle sticks, paper clips, buttons, pennies or Smarties™. Or you can purchase a set of manipulative blocks from **Math U See** – [www.mathusee.com](http://www.mathusee.com).

We've already talked about using the manipulatives to count and add and subtract. After your child knows the addition facts from 1-10, you just move on to 1-20, etc. Adding "around the bend" often requires memorization skills or mental short-cuts. Let me explain...

It is pretty easy to learn addition facts from  $1+1$  to  $5+5$ , but as soon as the answer goes over 10, a mental block begins to set in. So, we need to use a combination of memorization techniques and mental math tricks to set these addition facts into our brains. Flash cards are great for memorization. So are drill sheets. But these tend to be boring, so supplement these tools with some mental short-cuts.

Let's take 9 as our example. We can tell our children that 9 is truly an envious number. He really wants to be a 10! But, alas, he is just 1 short. So, every time 9 is to be added to another number, he takes 1 from the other number to make himself a 10 and so the other number becomes 1 less. Now the addition problem is much easier to answer quickly.

Take a look at this additional sentence:

$$9+6=15$$

The 9 (jealous as he is) takes 1 from the 6 to make himself 10, changing the 6 to a 5. See the new addition problem below. This is usually a much easier problem for children to solve. (Who am I kidding... it's much easier for ME to solve!)

$$10+5=15$$

The 9 always acts this way! Look at these sets of problems:

$$9+8=17$$

$$9+31=40$$

$$9+159=168$$

$$10+7=17$$

$$10+30=40$$

$$10+158=168$$

Guess what? There are other numbers that act this way too. Eight is doubly jealous and takes 2 numbers. See below:

$$8+5=13$$

$$8+55=63$$

$$8+202=210$$

$$10+3=13$$

$$10+53=63$$

$$10+200=210$$

It gets even more fun with larger numbers! Both 99 and 98 really, REALLY want to be 100. Look how they behave:

$$99 + 352 = 451$$
$$100 + 351 = 451$$

$$98 + 101 = 199$$
$$100 + 99 = 199$$

The more you do this, the less you will have to rewrite the problem in order to solve it. Try these mental math problems yourself and see how quickly you can figure them out:

$$9 + 27 =$$

$$8 + 79 =$$

$$99 + 153 =$$

$$98 + 798 =$$

Okay, how did you do? The answers are on the bottom of this page. It does get a little tougher to use manipulatives with larger number such as these, unless you have a purchased set of blocks, or perhaps toothpicks or popsicle sticks that are bundled into groups of tens and hundreds. However, one tip to remember is that you can use money to reinforce this concept once you reach the hundreds place. Most children older than 5 realize that they would rather have a dollar than 99 pennies. And that is exactly how 99 pennies feels! He wants to be a dollar, so he takes 1 cent from the other number in order to become a whole dollar. You can set 99 pennies in a pile on the table and then another pile of 6 pennies. If the 99 can take 1 to become a 100 (or a full dollar) then the answer becomes much more obvious – 105 pennies or \$1.05.

Once you start adding money with your students, there are many games you can play around the house that require the ability to add money. Just a few would be Monopoly, Cashflow, and Life. You can also play grocery shopping with pretend or canned food. We have also made our own file folder game that required buying and selling which meant that addition and subtraction came into play. I will talk more about creating your own games a little later in the lesson.

Another amazing tool for learning addition and subtraction is the Hundred Chart. I have included one for you at the end of this lesson. This is super easy to make and to use. (You can also laminate it so that spilled milk and slopped jelly doesn't mean you have to print out a new one!)

Answers: 36, 87, 252 and 896

The first thing I do when introducing a hundred chart is to just have my child look at it and make any comments that he wants to about it. If he needs some prompting, I might say, "Do you see any patterns on your hundred chart?" Here are some of the patterns that your child might notice:

- There are 10 rows and 10 columns
- Each row starts with a number that ends in 1
- Each column has the same number in the ones place (or units place)
- Each row starts with the next number
- The 10s are in the last column, making it easy to count by tens
- There are some cool diagonal patterns as well – start at 11 and then move down diagonally to the right, you get 11, 22, 33, 44... (adding by 11 but he might not know this yet).

There are plenty more observations that your child can make. This hundred chart is a useful tool when adding and subtracting, especially "around the bend" as we talked about earlier. You can play a game with this chart by having your child point to a random number (with his eyes closed) and then add 2 or 5 or 10 to that number. Just keep playing around with it.

You can print off multiple sheets and have your child color all of the multiples of 2 (skip counting by 2). Then use a different sheet to color the multiples of 5 and 10. Does she see a pattern? How about coloring multiples of 3 or 4. What does she notice?

Or you can do this same exercise online at the following website and save paper - <http://www.apples4theteacher.com/math/games/100-number-chart-one.html>. Pretty cool!

How about a subtraction game using the hundred chart? Here is a great one called Euclid's Game. Follow this link:

<http://letsplaymath.wordpress.com/2008/01/26/euclids-game-on-a-hundred-chart/>

When your kids start to become very comfortable with the hundred chart, you can challenge them with this timed game called "Give the Dog a Bone":

[http://www.classbrain.com/artgames/publish/dog\\_bone\\_number\\_square\\_game.shtml](http://www.classbrain.com/artgames/publish/dog_bone_number_square_game.shtml)

There are lots of games that you can play that require adding and subtracting. Keep a look out for them (Yahtzee is a good one!). Whenever one of our children

finishes a math book, we give him the day off math and play a math game with him instead. This is something that our kids look forward to and motivates them to finish the book.

## Multiplication and Division

We used to have a math cassette tape that had some catchy jingles to cement math concepts. One of them had lyrics that went like this... "When adding and adding and adding and adding is driving you out of your mind, try out multiplication - it will save you a lot of time!"

That is exactly what multiplication is. Instead of adding  $5+5+5+5$  to arrive at 20, you can multiply  $5 \times 4$  to get the same answer.

So, skip counting is the precursor to multiplication. If you can skip count by 2s, 3s, 4s, 5s, etc. then it is not so difficult to multiply with those same numbers. Again, flash cards and math drills do come in handy for memorizing your multiplication tables, but there are some fun tools and short-cuts that can help as well. Let's get back to the number 9 again, just for fun.

There is a super nifty shortcut for learning your 9s table right in front of your face. That's right, your two hands. Hold them up so that your hands are extended comfortably and you are looking at the backs of your hands (not the palms). When you are faced with  $9 \times 7$  for example, then you would just fold down your 7<sup>th</sup> finger and voila! the answer is right before you. Count the fingers before the 7<sup>th</sup> that is folded down and you get 6. And then count the fingers that are beyond the folded down finger and you get 3. That is  $6-3$  or  $63$  – the correct answer! Try it with all multiples of 9 from  $9 \times 1$  all the way up to  $9 \times 9$ . It works every time! (Psst... That's because there is a pattern to multiples of 9 – actually, there are patterns all over the place).

Here are some fun online games that you might want to play to cement multiplication facts. As with all links, do check them out yourself first before letting your children take over the computer. I have tried to check all links, but sometimes things change or I miss something, so use your own judgment.

<http://www.gamequarium.com/multiplication.html>

[http://www.classbrain.com/artgames/publish/math\\_magician\\_games.shtml](http://www.classbrain.com/artgames/publish/math_magician_games.shtml)

[http://www.multiplication.com/interactive\\_games.htm](http://www.multiplication.com/interactive_games.htm)

Short division is just multiplication backwards. Now long division, that's another story... Here are some fun sites for extra practice (with help along the way!):

<http://www.kidsnumbers.com/long-division.php>

<http://www.coolmath4kids.com/long-division/index.html>

<http://www.aaamath.com/div.htm>

Your child does need to know her multiplication tables in order to play these games or she will become quickly frustrated. Use a multiplication chart (we've provided one for you at the end of this lesson), skip counting, flash cards and the multiplication games above to get those facts memorized.

Or try lattice multiplication for a fun twist...

<http://www.coolmath4kids.com/times-tables/times-tables-lesson-lattice-multiplication-1.html>

## Fractions and Percentages

I love fractions because you can use tasty apple pies and pizzas loaded with yummy toppings to bring the concept to life! In fact, any and all baking requires some use of fractions. And when you double and triple a recipe, you often have to add or multiply fractions. And that's fun because it means more!

For some kids, it is hard to grasp the concept that  $1/2 + 1/3 = 5/6$ . There doesn't seem to be any rhyme or reason to it – even when they know that they need to convert the fractions to ones that have common denominators. As adults, we know that the common denominator for these two fractions is 6 and so we convert the problem in our minds to  $3/6 + 2/6 = 5/6$ . This makes sense. But it doesn't always make sense to our fledgling mathematicians.

So, bake a pie or a pizza or a yummy chocolate cake (round please) and cut it into 6 slices (we are feeling generous today). Now ask your child to show you one half of the pie. She will point to 3 slices. Next ask her if she can show you  $1/3$  of the pie (or how many slices each would get if there were 3 people to feed) and she will probably point to 2. Now add up the slices ( $1/2 + 1/3$ ) and how many do you get? 5 out of 6 slices or  $5/6$  of the pie.

**Note:** Of course, you can do this same math equation with 12 slices!

Speaking of baking, my friend Martha from Marmee Dear & Co. has generously contributed one of her Sugar and Spice ebooks for our class members. I think

that you will love it. Cooking together is a great way to bond with your kids and learn at the same time.

**Bonus Gift:** Sugar N Spice Unit Studies from Marmee's Kitchen are wonderfully engaging and educational studies for families to work together in the kitchen and beyond. These studies make special times spent together and the studies are hidden in unique fun - with the children learning by Momma's side in the kitchen. They include reading skills, math, geography, spelling and more! The full set has 5 booklets on GINGER, CINNAMON, CLOVES, NUTMEG and SUGAR. This ebook is #3 on Cloves (just in time for the holidays!). *[Sorry, bonus links are for Homeschooling ABCs members only, please find out more here – [www.HomeschoolingABCs.com](http://www.HomeschoolingABCs.com).]*

Here is just a little bit more about **Marmee Dear & Co** ~

Offering All Things Precious & Pleasant for the Home Circle  
Proverbs 24: 3 & 4 at [www.MarmeeDear.com](http://www.MarmeeDear.com)

Join our online mentoring at <http://www.thehomemakersmentor.com>  
Classes begin Jan 08 ~ 24 Lessons per year.

Percentages are similar to fractions, but are based on the number 100. If we cut a pizza into 100 pieces (which we wouldn't of course!), then each slice would be 1/100 of the whole pie or 1%.

We use percentages all the time in our daily lives, especially when it comes to money, tipping, interest rates, etc. Here are some online resources to help your children practice with percentages:

Calculating tips - <http://www.funbrain.com/penguin/index.html>

Cyberchase - <http://pbskids.org/cyberchase/games/percent/percent.html>

Matching game - [http://www.mathplayground.com/Matching\\_Fraction\\_Percent.html](http://www.mathplayground.com/Matching_Fraction_Percent.html)

## Algebra

Algebra is simply arithmetic using base X instead of base 10. It works the same, only there are unknowns that need to be solved for based on the other known information in the problem. You can begin introducing algebraic concepts when your students are in 1<sup>st</sup> or 2<sup>nd</sup> grade. I'm sure you are thinking that I am kidding since the typical public school student is introduced to pre-algebra beginning in 8<sup>th</sup> grade. But let me show you how:

When you discuss the concept that  $2+3=5$ , you can introduce algebra even before you teach subtraction. You would set out 2 peanuts and then 3 peanuts and then 5 peanuts and write down the number sentence on a paper that reads  $2+3=5$ . You show this concept with the peanuts how the two piles of peanuts add up to the amount of peanuts in the 3<sup>rd</sup> pile. Now remove one of the piles and say 2 peanuts, plus *how many more* peanuts equal 5 peanuts. The answer of course is three. Now you do not need to use the symbol X at this time with young children, but you can write down  $2+ \_ = 5$  and they can fill in the number. You can continue to use these algebraic concepts as the math gets harder. For example, 71 kids from our co-op showed up for the carnival, but they were expecting 100. How many kids didn't show? You can ask 71 plus *how many more* equals 100? And while we're at it, ask what percentage of kids did not come to the carnival?

Obviously algebra gets way more complex the older and further along that they get, especially as your students move into Algebra II and trinomials, etc. But encourage them as they move through higher math that you can still have fun with numbers. Algebra is logical and makes sense, even when it appears tricky. They can even impress their friends! Take a look at these fun tricks...

### **Guess Their Birthday!**

1. Ask a friend for the month number of their birthday: January=1, Feb= 2 etc.
2. Multiply that by 5
3. Then add 6
4. Then multiply that total by 4
5. Then add 9
6. Then multiply this total by 5 once again
7. Finally, have them add to that total the day their friend was born on. If they were born on the 18th, they add 18, etc.

$$5 (4 (5M + 6) + 9) + D = 100 M + D + 165$$

Thus, if you subtract off the 165, what will remain will be the month in hundreds plus the day! Their friends will wonder how they got so smart!

### **How many brothers and sisters do you have?**

[http://www.10ticks.co.uk/s\\_mathemagician.aspx?i=6](http://www.10ticks.co.uk/s_mathemagician.aspx?i=6)

(Algebra problem and solution provided at the website above)

Here are some online algebra games to spice things up a bit:

<http://www.aplusmath.com/Games/PlanetBlast/index.html>

<http://hotmath.com/games.html>

<http://mathsnet.net/algebra/tiles1.html>

## Geometry

How about some fun with tangrams and Sudoku to reinforce geometry knowledge?

### Tangrams

You can print out your own tangram pattern from either of these sites:

[www.calmast.ie/Tangram%20activity.doc](http://www.calmast.ie/Tangram%20activity.doc)

If you do not have MS Word, then print a template from this site -

<http://www.curiouser.co.uk/tangram/template.htm>

Here are some tangram puzzles to figure out. Have fun!

<http://www.cleavebooks.co.uk/puzzles/tangrams/tangint.htm>

<http://www.tangrams.ca/puzzles/puzzles.htm>

### Sudoku

How about a game of Sudoku? Technically, this is not geometry, but it does involve logic skills and the use of a grid. You can print out a blank Sudoku template here:

[http://commons.wikimedia.org/wiki/Image:Sudoku\\_template.PNG](http://commons.wikimedia.org/wiki/Image:Sudoku_template.PNG)

<http://www.mathwire.com/templates/sudoku9.pdf>

With a blank template, your child can work on this puzzle in any location. Or, if he would like you play online, you can click over to the site below:

Sudoku online - <http://www.factmonster.com/games/sudoku.html>

**Here are the directions for playing the game:** A sudoku grid should be pre-filled with some numbers before your child begins to solve the puzzle. You can print out pre-filled grids from the Factmonster site above.

There are 9 rows in a traditional Sudoku puzzle. Every row must contain the numbers 1, 2, 3, 4, 5, 6, 7, 8, and 9. There may not be any duplicate numbers in any row. In other words, there can not be any rows that are identical.

In the illustration at the left the numbers 5, 3, 1, and 2 are the "givens". They can not be changed. The remaining numbers in black are the numbers that you fill in to complete the row.

### Columns

There are 9 columns in a traditional Sudoku puzzle. Like the Sudoku rule for rows, every column must also contain the numbers 1, 2, 3, 4, 5, 6, 7, 8, and 9. Again, there may not be any duplicate numbers in any column. Each column will be unique as a result.

In the illustration at the left the numbers 7, 2, and 6 are the "givens". They can not be changed. You fill in the remaining numbers as shown in black to complete the column.

### Regions

A region is a 3x3 box like the one shown to the left. There are 9 regions in a traditional Sudoku puzzle.

Like the Sudoku requirements for rows and columns, every region must also contain the numbers 1, 2, 3, 4, 5, 6, 7, 8, and 9. Duplicate numbers are not permitted in any region. Each region will differ from the other regions.

In the illustration to the left the numbers 1, 2, and 8 are the "givens". They can not be changed. Fill in the remaining numbers as shown in black to complete the region.

In summary, **the Sudoku rule is:** *Complete the Sudoku puzzle so that each and every row, column, and region contains the numbers one through nine only once.*

There is only one solution to a properly designed Sudoku puzzle.

### Lego's

For young children, you can have them work with Lego's to get a better concept of basic geometry. Here are some fun activities to try –

<http://www.littlebrickschoolhouse.com/activities.html>

## File Folder Games

Earlier in this lesson, I mentioned that you can make file folder games to supplement your math studies. Making file folder games is a wonderfully CHEAP way to add games to your family's collection without spending any money (except for the file folders, that is).

Here are some file folder game ideas for addition and subtraction:

[http://www.positivelyautism.com/downloads/foldergame\\_onedigitaddition12.pdf](http://www.positivelyautism.com/downloads/foldergame_onedigitaddition12.pdf)

[http://www.positivelyautism.com/downloads/foldergame\\_onedigitaddition34.pdf](http://www.positivelyautism.com/downloads/foldergame_onedigitaddition34.pdf)

Use the ideas above to create games that use **higher numbers** or even **multiplication and division**. These are just a springboard for you.

Also, we made a file folder game with a path and along the path were items that you would buy if you landed on that square along with the dollar amount. Each child would move through the "store" by rolling dice and adding up the money that they spent as they went along. There wasn't really a winner, but of course, one that finished first thought he was the winner. I told them that the winners were all those who did their math correctly 😊.

For place value, we created a file folder game with a path and on each square was a 4 digit number that included numbers up through 5 (for example, 4125). To play the game, each player would draw a card from the deck (which we made) that included several cards with one of four words on them – ones (or units), tens, hundreds and thousands. If the player drew the card "thousands", then she would move the number of places in the thousands place, in this case 4. You would continue until each player finished the course.

Let your imagination soar as you invent and create your own math games for you family using objects you already have around your home.

## Math Symmetry

Finally, I want to finish off this lesson with a beautiful representation of math's amazing symmetry. Truly, God is the creator of logic and numbers and mathematics. And all things He creates are amazing and mind-expanding. Here's just one fascinating example:

Beauty of Mathematics!!!!!!!

$$\begin{aligned}1 \times 8 + 1 &= 9 \\12 \times 8 + 2 &= 98 \\123 \times 8 + 3 &= 987 \\1234 \times 8 + 4 &= 9876 \\12345 \times 8 + 5 &= 98765 \\123456 \times 8 + 6 &= 987654 \\1234567 \times 8 + 7 &= 9876543 \\12345678 \times 8 + 8 &= 98765432 \\123456789 \times 8 + 9 &= 987654321\end{aligned}$$

$$\begin{aligned}1 \times 9 + 2 &= 11 \\12 \times 9 + 3 &= 111 \\123 \times 9 + 4 &= 1111 \\1234 \times 9 + 5 &= 11111 \\12345 \times 9 + 6 &= 111111 \\123456 \times 9 + 7 &= 1111111 \\1234567 \times 9 + 8 &= 11111111 \\12345678 \times 9 + 9 &= 111111111 \\123456789 \times 9 + 10 &= 1111111111\end{aligned}$$

$$\begin{aligned}9 \times 9 + 7 &= 88 \\98 \times 9 + 6 &= 888 \\987 \times 9 + 5 &= 8888 \\9876 \times 9 + 4 &= 88888 \\98765 \times 9 + 3 &= 888888 \\987654 \times 9 + 2 &= 8888888 \\9876543 \times 9 + 1 &= 88888888 \\98765432 \times 9 + 0 &= 888888888\end{aligned}$$

$$\begin{aligned}1 \times 1 &= 1 \\11 \times 11 &= 121 \\111 \times 111 &= 12321 \\1111 \times 1111 &= 1234321 \\11111 \times 11111 &= 123454321 \\111111 \times 111111 &= 12345654321 \\1111111 \times 1111111 &= 1234567654321 \\11111111 \times 11111111 &= 123456787654321 \\111111111 \times 111111111 &= 12345678987654321\end{aligned}$$

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In Conclusion...

I just wanted to mention briefly here that you can use any and all of these ideas along with any math curriculum that you have chosen. If you are still looking for one, here are three that are very popular with homeschooling families:

1. **Saxon** - #1 in popularity, traditional textbook approach
2. **Singapore Math** – Uses mental math concepts, originated in Singapore which is the country with the best math scores (or at least used to be).
3. **MathUSee** – Based on the concept that seeing the concept helps it to make sense, included manipulatives.

I hope that helps!

Finally, I wanted to include a bonus article for you from Cindy Prechtel of Homeschooling from the Heart. This little article is packed with great ideas!

## Outside the Books - Math Lab Day

At a recent homeschool convention, I had the opportunity to speak to many moms about ways to think "Outside the Books", when it comes to our homeschooling. I wasn't advocating never using textbooks or changing programs, but rather, helping them see that there are many ways to "show what you know". It is also important for us to help our children see that real learning happens all the time, not just when they are filling out worksheets or sitting at our school table.

One way we have added a bit of spice to our homeschooling over the years is with a weekly Math Lab day. On one day a week I plan for us to leave the math curriculum on the shelf and do some hands-on learning with games, crafts, etc. Math Lab days are also great for using math software you have sitting around, but may never get around to using. Or how about those math games you have purchased, but usually remain on the shelf collecting dust?

Just what kinds of things can you do on Math Lab Day? I'm glad you asked!

### Young children

- Counting games with candy, Legos, or anything else you might have lying around.
- "War" with a regular deck of cards or make your own deck with numbers to 100 and maybe a "wild card" or two to make things more exciting.

- If you have them, Snap Cubes (a popular manipulative) are great to play with, making "trains" of different color patterns. You start the pattern, and your child adds on to the train following the pattern. Then let them start a pattern and you finish it.
- Any board game that requires dice and counting.
- Use standard and non-standard items to measure things around the house. "Hey, Mom, did you know the cat is 50 paper clips long?"
- Kitchen - baking involves using lots of real life fractions - while you're at it, how about sharing the "fruits" of your math lesson with a neighbor!
- Play store

### Elementary thru Middle School

- Math with Literature! We love Sir Cumference, A Place for Zero, Equal Schmequal, and other titles in the math adventure series.
- Our favorite math games are S'math and Knock Out! from Muggin's Math - we just purchased their new fraction games, too.
- Board games, including Monopoly, PayDay!, Sequence and more.
- Card games like UNO and War. A favorite is to use flashcards with math facts as our "war" deck.
- Videos: Multiplication Rock, Money Rock
- Play store and many of the other activities from the above list
- If you have any of the handheld, electronic math toys, Lab Day is a good time to make sure they are put to use
- Computer games - Money Town, Math Blaster, etc.
- Use activities from "Family Math", "Math for Smarty Pants" or "Games for Learning Math."
- Plan an imaginary trip and use a map to figure how many miles you will travel.
- For kids interested in the Stock Market, you can use Lab Day each week to track and check on a couple of stocks, plotting their progress on a graph.
- Visit one of the fun, free math game sites online like the Math Arcade at [www.funbrain.com](http://www.funbrain.com).

Our weekly Math Lab day definitely adds some fun to our homeschool! It breaks up the routine and allows me to see if the math skills my kids are learning through their curriculum is carrying over into other "real life" scenarios. It has also proven to be a positive way for the kids to see that there are many ways to learn and apply new skills.

Cindy Prechtel and her husband homeschool their two sons in SW Florida. She is the owner of Homeschooling From the Heart, and the author of several books, including the "Character Building Copywork Series". You can read more articles and product reviews at her website: [www.HomeschoolingFromTheHeart.com](http://www.HomeschoolingFromTheHeart.com)

## This Week's Assignment

Have fun with math this week by trying at least one of the games/activities included in this lesson. Two or more would be better 😊.

**Did you like this lesson?** Visit our website – [www.HomeschoolingABCs.com](http://www.HomeschoolingABCs.com) – to find more great lessons on these topics plus many, many more...

- Writing's Not So Tough!
- Teaching the Multi-Grade Homeschool
- Nature Study and Science
- Evaluations/Testing
- Homeschooling High School

Have a great week,



Terri Johnson  
Homeschooling ABCs  
[www.HomeschoolingABCs.com](http://www.HomeschoolingABCs.com)  
[www.KnowledgeQuestMaps.com](http://www.KnowledgeQuestMaps.com)

### Coming Up Next Week...

Next week we'll discuss the topic of ***Nature Study and Science***. If you liked this week's lesson, just wait until you get next week's lesson in your email box! See you then!

**Previous Lessons on next page –**

*[Sorry, links to previous lessons are for Homeschooling ABCs members only, please find out more here – [www.HomeschoolingABCs.com](http://www.HomeschoolingABCs.com).]*

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1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
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41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
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71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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<b>1</b>	1	2	3	4	5	6	7	8	9
<b>2</b>	2	4	6	8	10	12	14	16	18
<b>3</b>	3	6	9	12	15	18	21	24	27
<b>4</b>	4	8	12	16	20	24	28	32	36
<b>5</b>	5	10	15	20	25	30	35	40	45
<b>6</b>	6	12	18	24	30	36	42	48	54
<b>7</b>	7	14	21	28	35	42	49	56	63
<b>8</b>	8	16	24	32	40	48	56	64	72
<b>9</b>	9	18	27	36	45	54	63	72	81